## (19) World Intellectual Property **Organization**

International Bureau





(43) International Publication Date 7 July 2005 (07.07.2005)

**PCT** 

## (10) International Publication Number WO 2005/061182 A3

(51) International Patent Classification7: B21D 37/02, B23Q 3/06

B25B 1/24,

(74) Agents: STAGG, Diana, C. et al.; Marks & Clerk, 144 New Walk, Leicester LE1 7JA (GB).

(21) International Application Number:

PCT/GB2004/005424

(22) International Filing Date:

23 December 2004 (23.12.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 0329979.9

24 December 2003 (24.12.2003) GB

(71) Applicant (for all designated States except US): SUR-FACE GENERATION LTD [GB/GB]; 1B Centurian Business Park, Sturrock Way, Bretton, Peterborough PE3 8YF (GB).

(72) Inventor; and

(75) Inventor/Applicant (for US only): HALFORD, Ben, John [GB/GB]; 7 Redland Close, Barrowden, Rutland, Leicestershire LE15 8ES (GB).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,

CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,

GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,

KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,

PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Declaration under Rule 4.17:** 

of inventorship (Rule 4.17(iv)) for US only

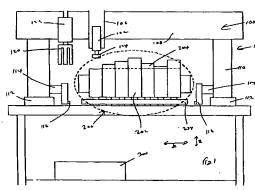
## Published:

7.W

with international search report

[Continued on next page]

(54) Title: RECONFIGURABLE WORKPIECE SUPPORT



(57) Abstract: A tooling system comprises a plurality of elongate elements (202) each having an upper surface, said elements being arranged in an array to present said upper surfaces for machining by cutting tool means (104); support means (234) for supporting said elements, each said element being supported on said support means for axial movement between upper and lower positions relative to the other elements in the array thereby to enable adjustment of the vertical position of said element surface; and clamping means (114) for clamping the array of elements in a closed position in which the elements contact one another for enabling the free ends of the elements to be machined to produce a desired surface contour. A method of tooling using such a tooling system comprises storing existing data representing the contour of the surface of each element including the z values of the surface at any given x,y coordinate point relative to a datum; storing new data representing a desired contour for the surface of each element position in the array including the z values of the surface at said any given x,y coordinate point relative to said datum; comparing said new data for a first, selected element position with the existing data for a first element in said selected element position; and adjusting the height of said first element to adjust said z values of said existing data at said any given x,y coordinate point to values at least equal to said z values; of said new data at said any given x,y coordinate point.



## WO 2005/061182 A3



 before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report: 18 August 2005

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.